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NOTES ON *EREMOPHILA* R.BR. (MYOPORACEAE) IN SOUTH AUSTRALIA

R. J. Chinnock

State Herbarium, Botanic Gardens, North Terrace, Adelaide, South Australia 5000

Abstract

Three species of *Eremophila*, namely *E. clarkei* Oldfield & F. Muell., *E. obovata* L. S. Smith and *E. turtonii* F. Muell., are recorded in South Australia for the first time. A brief description, based on South Australian material, and a map showing the known distribution in the state, is provided for each species.

The occurrence in the state, of *E. denticulata* F. Muell. and *E. goodwinii* F. Muell., which were included in Black's "Flora of South Australia," (1957) is considered very doubtful.

New Records of *Eremophila* for South Australia

Specimens of three *Eremophila* spp., *E. clarkei*, *E. obovata* and *E. turtonii*, not previously recorded for South Australia, have recently been found during sorting and identification of collections held at the State Herbarium. The descriptions provided below are based on South Australian material.

Eremophila clarkei Oldfield & F. Muell., Fragm. 1: 208 (1859).

The South Australian material of *Eremophila clarkei* is very homogeneous and falls well within the concepts of the species, which is, however, very polymorphic and at present poorly understood. The South Australian form differs from the commonest Western Australian one, which has narrowly linear-lanceolate markedly dentate leaves, in having shorter broader leaves which are obscurely dentate or entire.

Eremophila clarkei is most likely to be confused with *E. gilesii* F. Muell. and *E. willsii* F. Muell., from which it differs in the presence of substellate to stellate hairs on the leaves and branches, hardly imbricate ovate to ovate-lanceolate calyx-segments which become enlarged and scarious after flowering and the sigmoid pedicel longer than the calyx-segments.

Description

Shrub 1-1.6 m high, with ascending branches; branches minutely stellate pubescent. *Leaves* alternate, narrow lanceolate to lanceolate, 2-2.5 cm long, 3-5 mm broad, obscurely dentate or entire, minutely sparsely stellate-pubescent. *Flowers* axillary, solitary; pedicel sigmoid 1-2 cm long, minutely stellate-pubescent. *Calyx* 5-partite; segments unequal ovate to ovate-lanceolate, purplish, becoming enlarged and scarious after anthesis, sparsely pubescent. *Corolla* blue to mauve, pubescent. *Stamens* included. *Ovary* densely hirsute, covered with short glandular and long, simple and branched hairs; style hirsute. *Drupe* broadly ovoid, about 8 mm long, 6 mm broad near the base.

Distribution in South Australia (see Fig. 1)

North Western Region: *Pastoral Board of South Australia s.n.*, 27.ix.1955, Mt. Hardy (AD 97629369); 27.ix.1955, Bryson Hill — Mt. Hardy (AD 97629357); 27.ix.1955, Bryson Hill (AD 97629356).
Nullarbor Region: *H. Turner s.n.*, 10.viii.1960, 1 km N. of RB1 area, Maralinga (AD 96220040); *H. Turner s.n.*, 1.ix.1960, 1 km E. of RB1 area, Maralinga (AD 96220044); *H. Turner s.n.*, 1960, Maralinga (AD 97605396); *P. Wilson 1774*, 18.ix.1960, near Maralinga (AD).

Eremophila obovata L. S. Smith, Proc. Roy. Soc. Qld. 87: 33 (1956) var. *obovata*

Eremophila obovata is known from a number of locations in the Lake Eyre Basin Region, especially in the vicinity of Cordillo Downs in the extreme north-east of the state bordering Queensland. There is one collection from Oodnadatta over 500 kilometres to the west of Cordillo Downs, and it is likely that the species occurs at least in areas intermediate between these two locations.

The densely tomentose, subplumose hairy stems and the leaf shape are sufficient to distinguish this species from others in South Australia.

Description

Shrub, much branched, to 50 cm high; branches white tomentose. *Leaves* alternate, broadly obovate to flabellate, 8-11 (13) mm long, 7-9 (11) mm broad, cuneate towards the base, shortly acuminate, margins often undulate, dentate near apex, sparsely subplumose above, moderately subplumose below. *Flowers* axillary, solitary; pedicel short, subplumose. *Calyx* 5-partite; segments lanceolate, subequal, valvate, subplumose especially along the margins, enlarging after anthesis. *Corolla* blue, 1-1.2 cm long, very sparsely pubescent outside. *Stamens* included. *Ovary* and style glabrous. *Drupe* subglobose, about 6 mm long.

Distribution in South Australia (See Fig. 1)

Lake Eyre Basin Region: *C. D. Boomsma s.n.*, 21.xi.1975, 75 km S. of Cordillo Downs, 27° 44'S, 140° 46'E (AD 97551074); *N. N. Donner 5332*, 28.viii.1975, 30 km E. of Cordillo Downs, 4 km W. of Arrabury Homestead, 26° 46'S 140° 59'E (AD); *J. L. Johnson & S. Reed s.n.* no date, Oodnadatta (AD 96004121); *Pastoral Board of South Australian s.n.*, 1.vi.1957, Innamincka (AD 97635013).

This species also occurs in the Northern Territory and southwest Queensland.

Eremophila turtonii F. Muell., Fragm. 10: 87 (1876)

In South Australia, *E. turtonii* is known only from Mt. Moulden in the extreme north-west of the state. Two of the collections are typical of the species and the description below is based on these collections. A third collection (AD 97630156) differs in a number of respects: the leaves are very sparsely stellate-pubescent above but glabrous below with slightly revolute margins; the stems are irregularly tomentose, the portion of stem below the leaf base being glabrous; the outside of the calyx-segments are glabrous except along the margins or for the occasional hair on the surface. Flowers have not been observed in this aberrant form.

The stellate-tomentose stems, the ovate to obovate stellate-tomentose leaves and the large oblong non-imbriate calyx-segments distinguish *E. turtonii* from other South Australian species.

Description

Shrub to about 1m high; branches grey-white tomentose. *Leaves* alternate, obovate to oblanceolate, entire, 1.5-4 cm long 0.5-0.9 mm broad, stellate-tomentose on both surfaces, the pubescence of young growth including stem often yellow. *Flowers* axillary, solitary; pedicel short 5-7 mm long, stellate-tomentose. *Calyx* 5-partite; segments oblong, obtuse 1.5-2 cm long, 4-6 mm broad, stellate-tomentose inside, stellate-pubescent outside. *Corolla* creamy pink, 2-2.3 cm long, stellate-pubescent outside. *Stamens* and style exerted. *Ovary* and style glabrous. *Drupe* ovoid, glabrous, about 8 mm long, 4-5 mm broad.

Distribution in South Australia (see Fig. 1)

North-Western Region: *Pastoral Board of South Australia s.n.*, 25.ix.1955, Mt. Moulden (AD 97628552, 97630156, 97630164).

This species also occurs in the Northern Territory and Western Australia.

Species of *Eremophila* doubtfully recorded for South Australia

***Eremophila denticulata* F. Muell., *Fragm.* 1: 125 (1859).**

Black (1957) recorded this species from "near Eucla" but no South Australian collections have been located. It is likely that Black accepted this species on the authority of Mueller (1887) who recorded the species as "near Eucla, Bate".

There is only one specimen at MEL under *Eremophila denticulata* or the very closely related *E. decipiens* Ostenf. which could be considered as the specimen referred to by Mueller (H. Aston, pers. comm.). This specimen is labelled "Eucla/1886 J. D. Batt" on a blue "Phytologic Museum of Melbourne" label with the identification (which appears to be in Mueller's handwriting) of "*Eremophila denticulata* F. Muell." A packet attached to the sheet, and containing a fruit is labelled "*Eremophila denticulata*/Eucla/1886 J. D. Batts," not in Mueller's handwriting. Mueller's article was read to the Royal Society of South Australia on September 6th 1886, so the date of collection is consistent with the date of reading. It is possible that the name "Batt" appeared in publication as "Bate" assuming that it was considered by Mueller to be a misspelling. Indeed the type collection of *Melaleuca quadrifaria* F. Muell., a species published in 1886 and which appeared in Mueller's paper of 1887, is labelled "J. D. Bate near Eucla." This was cited in the same way as *E. denticulata*. One could also suppose that "Eucla" appeared as "near Eucla" to be consistent with the other records cited in this manner.

The specimen at MEL is not consistent with *E. denticulata* and fits well *E. decipiens* Ostenf., a species not recognised at the time Mueller's paper was published. It seems likely that this species was mistaken for *E. denticulata*.

Even supposing that there does exist elsewhere a collection of *E. denticulata* collected by "J. D. Bate near Eucla" there seems little reason to consider that it was collected in South Australia. Such vague locations give no indication of distance or direction from a given place and in the nineteenth century it could well have been one or fifty miles from the site in any direction.

Since the only known collection labelled "*E. denticulata*" held at MEL collected at Eucla in 1886 by J. D. Batt is not this species but *E. decipiens* and in view of the vague location data the record by Mueller (1887) of *E. denticulata* for South Australia is rejected. The species is not considered to occur in this state.

***Eremophila goodwinii* F. Muell., *Rep. Babb. Exped.* 17 (1859).**

No authentic material of this species from South Australia is held at AD. All collections from South Australia included under this species name have now been reidentified as *E. clarkei*, *E. gilesii* F. Muell. and *E. willsii* F. Muell.

If this species does occur in the state it may be expected to occur in the eastern Lake Eyre Basin Region where it is known to occur close to the border in the adjacent states and Northern Territory.

Acknowledgement

I wish to thank Miss H. Aston, National Herbarium of Victoria for searching out and examining the collections of *Eremophila denticulata* held at MEL.

References

- Black, J. M. (1957). "Flora of South Australia". 2 ed., Part 4: 789. (Government Printer: Adelaide).
 Mueller, F. (1887). Additions to the extra-tropical Flora of South Australia. *Trans & Proc. Roy. Soc. South Australia*. 9: 57-58.



Fig. 1. Distribution of *Eremophila clarkei*, *E. obovata* and *E. turtonii* in South Australia.